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### 1 [Natural language generation from plans](#)

Chris Mellish, Roger Evans

December 1989 **Computational Linguistics**, Volume 15 Issue 4

Full text available:

[pdf\(1.84 MB\)](#) [Publisher Site](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

This paper addresses the problem of designing a system that accepts a plan structure of the sort generated by AI planning programs and produces natural language text explaining how to execute the plan. We describe a system that generates text from plans produced by the NONLIN planner (Tate 1976). The results of our system are promising, but the texts still lack much of the smoothness of human-generated text. This is partly because, although the domain of plans seems *a priori* to provide ric ...

### 2 [Automated diagram drafting](#)

R. Meeks Strong, Henry G. deZwart

January 1967 **Proceedings of the 4th conference on Design automation**

Full text available:

[pdf\(941.66 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

The Automated Diagram Drafting (ADD) system is an off-line drafting system for generating schematic diagrams. The system has been operational at the Orlando Division of Martin Marietta for more than one year and has successfully demonstrated economical performance while producing documentation that meets military specification requirements. ADD has accomplished reduction in turn-around time from the development of a circuit to documentation in drawing form. The extremely important maintenanc ...

### 3 [Innovation of decision support system-matplan based on structure matrix supported by APL](#)

T. Toyama, M. Yauda

December 1987 **ACM SIGAPL APL Quote Quad , Proceedings of the international conference on APL**, Volume 18 Issue 2

Full text available:

[pdf\(936.76 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)


There exist two areas in Decision Support System. The one is the business area where the application logics are common property of the organization and should not be hold by a special person as black-box. e.g. Profit Planning. Cost Accounting. Production Planning etc. The another area would be afforded to be kept closed as black box. Responding "What-if" needs in the former area, current approaches which, in conclusion, require end-users utilizing of computer language, however e ...

4 The Programming Language Aspects of ThingLab, a Constraint-Oriented Simulation Laboratory

Alan Borning

October 1981 **ACM Transactions on Programming Languages and Systems (TOPLAS)**,

Volume 3 Issue 4

Full text available:  pdf(2.06 MB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

5 Understanding class hierarchies using concept analysis

Gregor Snelting, Frank Tip

May 2000 **ACM Transactions on Programming Languages and Systems (TOPLAS)**,

Volume 22 Issue 3

Full text available:  pdf(433.91 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)


A new method is presented for analyzing and reengineering class hierarchies. In our approach, a class hierarchy is processed along with a set of applications that use it, and a fine-grained analysis of the access and subtype relationships between objects, variables, and class members is performed. The result of this analysis is again a class hierarchy, which is guaranteed to be behaviorally equivalent to the original hierarchy, but in which each object only contains the members that are req ...

**Keywords:** class hierarchy reengineering, concept analysis

6 Hierarchical microprogram generating system

Eiji Tamura, Mario Tokoro

November 1979 **Proceedings of the 12th annual workshop on Microprogramming**

Full text available:  pdf(1.04 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A general purpose microprogram generating system has been developed to compose, together with a hardware/microprogram debugger, a general purpose development support system for LSI Processor Modules such as Am2900, MMI6700, and/or MACROLOGIC. The microprogram generator, designed to be applicable to a wide variety of microinstruction sets from vertical to horizontal including sophisticated control schemes like pipelining, has a three-level hierarchical structure. The lowest level generator i ...

7 User-cognizant multidimensional analysis

Sunita Sarawagi

September 2001 **The VLDB Journal – The International Journal on Very Large Data Bases**, Volume 10 Issue 2-3

Full text available:  pdf(248.65 KB)

Additional Information: [full citation](#), [abstract](#), [index terms](#)


Our goal is to enhance multidimensional database systems with a suite of advanced operators to automate data analysis tasks that are currently handled through manual exploration. In this paper, we present a key component of our system that characterizes the information content of a cell based on a user's prior familiarity with the cube and provides a context-sensitive exploration of the cube. There are three main modules of this component. A Tracker, that continuously tracks the parts of the cub ...

**Keywords:** Maximum entropy, Multidimensional data exploration, OLAP, Personalized mining, User-sensitive interest measure

8 Efficient scheduling of conditional behaviors for high-level synthesis

Apostolos A. Kountouris, Christophe Wolinski

July 2002 **ACM Transactions on Design Automation of Electronic Systems (TODAES)**,  
Volume 7 Issue 3

Full text available:  pdf(1.50 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

As hardware designs get increasingly complex and time-to-market constraints get tighter there is strong motivation for high-level synthesis (HLS). HLS must efficiently handle both dataflow-dominated and controlflow-dominated designs as well as designs of a mixed nature. In the past efficient tools for the former type have been developed but so far HLS of conditional behaviors lags behind. To bridge this gap an efficient scheduling heuristic for conditional behaviors is presented. Our heuristic a ...

**Keywords:** Design automation, conditional behavior, high level synthesis (HLS), scheduling

9 An approach to image retrieval from large image databases

F. Rabitti, P. Stanchev

November 1987 **Proceedings of the 10th annual international ACM SIGIR conference on Research and development in information retrieval**

Full text available:  pdf(873.66 KB)


Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this paper we address the problem of retrieving images from large image databases, giving a partial description of the image content. This approach allows a limited automatic analysis for image belonging to a domain described in advance to the system using a formalism based on fuzzy sets. The image query processing is based on special access structures generated from the image analysis process.

10 Coven: brewing better collaboration through software configuration management

Mark C. Chu-Carroll, Sara Sprenkle

November 2000 **ACM SIGSOFT Software Engineering Notes , Proceedings of the 8th ACM SIGSOFT international symposium on Foundations of software engineering: twenty-first century applications**, Volume 25 Issue 6

Full text available:  pdf(1.14 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Our work focuses on building tools to support collaborative software development. We are building a new programming environment with integrated software configuration management which provides a variety of features to help programming teams coordinate their work.


In this paper, we detail a hierarchy-based software configuration management system called *Coven*, which acts as a collaborative medium for allowing teams of programmers to cooperate. By providing a family of inter-relat ...

**Keywords:** collaborative programming

11 Methods and rules

Serge Abiteboul, Georg Lausen, Heinz Uphoff, Emmanuel Waller

June 1993 **ACM SIGMOD Record , Proceedings of the 1993 ACM SIGMOD international conference on Management of data**, Volume 22 Issue 2

Full text available:  pdf(1.02 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We show how classical datalog semantics can be used directly and very simply to provide semantics to a syntactic extension of datalog with methods, classes, inheritance, overloading and late binding. Several approaches to resolution are considered, implemented in the model, and formally compared. They range from resolution in C++ style to original kinds of resolution suggested by the declarative nature of the language. We show connections to view specification and a fur ...

**12 Horn tables-an efficient tool for handling incomplete information in databases**

G. Grahne


March 1989 **Proceedings of the eighth ACM SIGACT-SIGMOD-SIGART symposium on Principles of database systems**

Full text available:  [pdf\(757.09 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**13 Preprototyping SIMD coprocessors using virtual machine emulation and trace compilation**

Martin C. Herbordt, Owais Kidwai, Charles C. Weems

June 1997 **ACM SIGMETRICS Performance Evaluation Review , Proceedings of the 1997 ACM SIGMETRICS international conference on Measurement and modeling of computer systems**, Volume 25 Issue 1

Full text available:  [pdf\(2.05 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The use of massively parallel SIMD array architectures is proliferating in the area of domain specific coprocessors. Even so, they have undergone few systematic empirical studies. The underlying problems include the size of the architecture space, the lack of portability of the test programs, and the inherent complexity of simulating up to hundreds of thousands of processing elements. We address the computational cost problem with a novel approach to trace-based simulation. Code is run on an abs ...

**14 Computational Work and Time on Finite Machines**

J. E. Savage

October 1972 **Journal of the ACM (JACM)**, Volume 19 Issue 4

Full text available:  [pdf\(976.13 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

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1 [Incremental execution of guarded theories](#)

Giuseppe De Giacomo, Hector J. Levesque, Sebastian Sardiña

October 2001 **ACM Transactions on Computational Logic (TOCL)**, Volume 2 Issue 4

Full text available: [pdf\(245.94 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#), [review](#)

When it comes to building controllers for robots or agents, high level programming languages like Golog and ConGolog offer a useful compromise between planning-based approaches and low-level robot programming. However, two serious problems typically emerge in practical implementations of these languages: how to evaluate test in a program efficiently enough in an open-world setting, and how to make appropriate nondeterministic choices while avoiding full look ...

**Keywords:** agent behavior, reasoning about actions, situation calculus

2 [Rule-based optimization and query processing in an extensible geometric database system](#)

Ludger Becker, Ralf Hartmut Güting

June 1992 **ACM Transactions on Database Systems (TODS)**, Volume 17 Issue 2

Full text available: [pdf\(3.35 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Gral is an extensible database system, based on the formal concept of a many-sorted relational algebra. Many-sorted algebra is used to define any application's query language, its query execution language, and its optimization rules. In this paper we describe Gral's optimization component. It provides (1) a sophisticated rule language—rules are transformations of abstract algebra expressions, (2) a general optimization framework under which more specific optimization algorithms can be ...

**Keywords:** extensibility, geometric query processing, many-sorted algebra, optimization, relational algebra, rule-based optimization

3 [Full Technical Papers: MORE for less: model recovery from visual interfaces for multi-device application design](#)

Yves Gaeremynck, Lawrence D. Bergman, Tessa Lau

January 2003 **Proceedings of the 8th international conference on Intelligent user**

## interfaces

Full text available:  pdf(307.44 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

An emerging approach to multi-device application development requires developers to build an abstract semantic model that is translated into specific implementations for web browsers, PDAs, voice systems and other user interfaces. Specifying abstract semantics can be difficult for designers accustomed to working with concrete screen-oriented layout. We present an approach to model recovery: inferring semantic models from existing applications, enabling developers to use familiar tools but still ...

**Keywords:** model recovery, multi-device application development, reverse engineering, rule systems, semantic modeling

### 4 An extension to algebraic specifications to incorporate state behavior

Fred Calm, John R. White

January 1979 **Proceedings of the 1979 annual conference**

Full text available:  pdf(871.02 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Algebraic relations (axioms) have been used to describe the functional behavior of the objects represented by a data abstraction. In this paper an extension to algebraic specifications is described that allows one to associate a state with each object of a data abstraction and to specify how the operations of an abstraction effect an object's current state. Such an extension is necessary if dynamic performance issues are to be investigated during the design process. The extension allows one ...

**Keywords:** Algebraic specification, Data abstraction, Performance analysis, Software engineering, State models

### 5 PARLOG: parallel programming in logic

Keith Clark, Steve Gregory

January 1986 **ACM Transactions on Programming Languages and Systems (TOPLAS)**,  
Volume 8 Issue 1

Full text available:  pdf(3.79 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

PARLOG is a logic programming language in the sense that nearly every definition and query can be read as a sentence of predicate logic. It differs from PROLOG in incorporating parallel modes of evaluation. For reasons of efficient implementation, it distinguishes and separates and-parallel and or-parallel evaluation. PARLOG relations are divided into two types: single-solution relations and all-solutions relations. A conjunction of single-solution relation calls can be evaluated ...

### 6 An implementation of narrowing strategies

Sergio Antoy, Bart Massey, Michael Hanus, Frank Steiner

September 2001 **Proceedings of the 3rd ACM SIGPLAN international conference on Principles and practice of declarative programming**

Full text available:  pdf(277.16 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper describes an implementation of narrowing, an essential component of implementations of modern functional logic languages. These implementations rely on narrowing, in particular on some optimal narrowing strategies, to execute functional logic programs. We translate functional logic programs into imperative (Java) programs without an intermediate abstract machine. A central idea of our approach is the explicit representation and processing of narrowing computations as data objects. Thi ...

**Keywords:** Curry, Java, XML, functional logic, narrowing

7 Simulation education: Interactive Web-based animations for teaching and learning

Michael Syrjakow, Joerg Berdux, Helena Szczerbicka

December 2000 **Proceedings of the 32nd conference on Winter simulation**

Full text available:  pdf(615.67 KB) Additional Information: [full citation](#), [abstract](#), [references](#)

Web-based study resources can be viewed as a basic requirement in order to remain a competitive player on a more and more globalised educational market. For that reason it is getting increasingly important for universities to supplement offered lectures with additional Web-based learning material. In this paper we focus on interactive multimedia elements like computer animations and simulations, which can be used by students for individual experimentation. Such supplementary material represents ...

8 Computer assisted application definition

Martin Mikelsons

January 1975 **Proceedings of the 2nd ACM SIGACT-SIGPLAN symposium on Principles of programming languages**

Full text available:  pdf(875.01 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

This paper describes a system being developed to bridge the gap between an application program and a user inexperienced in the ways of computers. The user explores the characteristics of the available programs by a natural language dialogue with the system. The dialogue is supported by a knowledge base covering both the program semantics and the application domain. This paper addresses the problems of representation and inference involved in this approach and describes our solution for them.

9 Personalizing web sites for mobile users

Corin R. Anderson, Pedro Domingos, Daniel S. Weld

April 2001 **Proceedings of the tenth international conference on World Wide Web**

Full text available:  pdf(385.99 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

10 Designing a WinHelp project for quick conversion to lowest-common-denominator HTML-based help: a case study

Laurie Kantner, Larry Rusinsky

September 1998 **Proceedings of the 16th annual international conference on Computer documentation**


Full text available:  pdf(730.75 KB) Additional Information: [full citation](#), [index terms](#)

**Keywords:** HTML help, WinHelp, conversion, word macros

11 Special issue on ICML: Learning probabilistic models of link structure

Lisa Getoor, Nir Friedman, Daphne Koller, Benjamin Taskar

March 2003 **The Journal of Machine Learning Research**, Volume 3

Full text available:  pdf(479.67 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Most real-world data is heterogeneous and richly interconnected. Examples include the Web, hypertext, bibliometric data and social networks. In contrast, most statistical learning methods work with "flat" data representations, forcing us to convert our data into a form

that loses much of the link structure. The recently introduced framework of *probabilistic relational models* (PRMs) embraces the object-relational nature of structured data by capturing probabilistic interactions between att ...

**12 Hierarchical Latent Class Models for Cluster Analysis**

Nevin L. Zhang

August 2004 **The Journal of Machine Learning Research**, Volume 5

Full text available:  [pdf\(391.95 KB\)](#) Additional Information: [full citation](#), [abstract](#)

Latent class models are used for cluster analysis of categorical data. Underlying such a model is the assumption that the observed variables are mutually independent given the class variable. A serious problem with the use of latent class models, known as local dependence, is that this assumption is often untrue. In this paper we propose hierarchical latent class models as a framework where the local dependence problem can be addressed in a principled manner. We develop a search-based algorithm ...

**13 Planning-based control of interface animation**

David Kurlander, Daniel T. Ling

May 1995 **Proceedings of the SIGCHI conference on Human factors in computing systems**

Full text available:  [html\(48.04 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**14 Global partial orders from sequential data**

Heikki Mannila, Christopher Meek

August 2000 **Proceedings of the sixth ACM SIGKDD international conference on Knowledge discovery and data mining**

Full text available:  [pdf\(199.66 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** mixture models, partial orders, sequence analysis, time series analysis

**15 Teaching computer science with APL: An introduction to search procedures**

Stewart A. Denenberg, Howard A. Peelle

May 1979 **ACM SIGAPL APL Quote Quad , Proceedings of the international conference on APL: part 1**, Volume 9 Issue 4

Full text available:  [pdf\(606.41 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We suggest that APL be used to teach selected topics in computer science. As a case in point, we take the topic: "An Introduction to Search Procedures for Problem-Solving" This is the first topic in a series of experimental curriculum units currently being developed at the University of Massachusetts. In this paper, recursive APL functions are used to demonstrate fundamental search procedures, namely: Breadth-First Search De ...


**16 Computing curricula 2001**

September 2001 **Journal on Educational Resources in Computing (JERIC)**

Full text available:  [pdf\(613.63 KB\)](#)  [html\(2.78 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**17 Static scheduling algorithms for allocating directed task graphs to multiprocessors**



Full text available:  [pdf\(723.58 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)





Static scheduling of a program represented by a directed task graph on a multiprocessor system to minimize the program completion time is a well-known problem in parallel processing. Since finding an optimal schedule is an NP-complete problem in general, researchers have resorted to devising efficient heuristics. A plethora of heuristics have been proposed based on a wide spectrum of techniques, including branch-and-bound, integer-programming, searching, graph-theory, randomization, genetic ...

**Keywords:** DAG, automatic parallelization, multiprocessors, parallel processing, software tools, static scheduling, task graphs

**18** A memetic algorithm to schedule planned maintenance for the national grid

E. K. Burke, A. J. Smith

December 1999 **Journal of Experimental Algorithmics (JEA)**, Volume 4

Full text available:  [pdf\(85.62 KB\)](#)  [html\(4.73 KB\)](#)  [ps \(175.21 KB\)](#)  [LaTeX\(389.12 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The combination of local search operators, problem specific information and a genetic algorithm has provided very good results in certain scheduling problems, particularly in timetabling and maintenance scheduling problems. The resulting algorithm from this hybrid approach has been termed a Memetic Algorithm. This paper investigates the use of such an algorithm for the scheduling of transmission line maintenance for a known problem that has been addressed in the literature using a combination of ...

**Keywords:** heuristics, hill climbing, maintenance scheduling, memetic algorithms, simulated annealing, tabu search

**19** Learning evaluation functions to improve optimization by local search

Justin Boyan, Andrew W. Moore

September 2001 **The Journal of Machine Learning Research**, Volume 1


Full text available:  [pdf\(643.21 KB\)](#) Additional Information: [full citation](#), [abstract](#)

This paper describes algorithms that learn to improve search performance on large-scale optimization tasks. The main algorithm, STAGE, works by learning an evaluation function that predicts the outcome of a local search algorithm, such as hillclimbing or Walksat, from features of states visited during search. The learned evaluation function is then used to bias future search trajectories toward better optima on the same problem. Another algorithm, X-STAGE, transfers previously learned evaluation ...

**20** Agent decision making: Rational action in agent programs with prioritized goals

Sebastian Sardiña, Steven Shapiro

July 2003 **Proceedings of the second international joint conference on Autonomous agents and multiagent systems**

Full text available:  [pdf\(271.12 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Agent theories and agent programs are two very different styles of specification of agent behavior. The former are declarative in nature, while the latter have an imperative flavor. In this paper, we combine ideas from both areas, yielding a powerful mode of agent specification that also gives the specifier a good deal of control over the complexity of the

specified agent. In particular, we extend Shapiro et al.'s [16] agent theory to handle prioritized goals and then integrate it with the IndiG ...

**Keywords:** agent programming languages, rational action, situation calculus

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